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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,710	04/13/2006	Janne Vaananen	0365-0674PUS1	3257

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EXAMINER	
FAROUL, FARAH	

ART UNIT	PAPER NUMBER
2471	

NOTIFICATION DATE	DELIVERY MODE
10/29/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/575,710	VAANANEN, JANNE	
	Examiner	Art Unit	
	FARAH FAROUL	2471	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *September 28, 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 February 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 28, 2009 has been entered.

Response to Arguments

2. Applicant's arguments filed September 28, 2009 have been fully considered but they are not persuasive. Applicant has argued that the combination of the APA and Robotham fail to teach the disclosed invention. The examiner respectfully disagrees. All the claimed limitations are taught by the combination of APA and the Robotham reference (see section 3 of this Office Action, emphasis added). For claims 1 and 3, Robotham teaches *defining at least two shaping groups in the system, each shaping group including* at least one of the traffic flows and at least one of the shaping groups including at least two of the traffic flows (Robotham, figure 3A, elements 301A and 301B form a shaping group which is shaped in scheduler 302). Figure 1 of admitted prior art (APA) in the Specification contains the Shaper (SH) as the means to perform the functions discussed below. Specification, equation 3 on page 3, line 17 teaches that if there are more than one VTS values, each associated with one restriction on the packet flow, then the greatest VTS value will be selected. **Applying the same rule, when**

there are more than one VTS values, each associated with one shaping group, then the greatest VTS value will be selected). It is also suggested that applicant argues the combination of the cited references instead of arguing a particular reference. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The added limitations do not overcome the rejection. The rejection is, thus, maintained

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

i. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robotham (US 2004/0100967 A1) in view of admitted prior art (hereinafter APA) included in the application.

ii. As per claim 1, Robotham teaches *a method for performing aggregate-portion-specific flow shaping in packet-switched telecommunications* (Robotham, paragraph [0001] teaches a method for scheduling aggregation-related data traffic flow), *in which method:*

- *Transferring digital information as constant or variable-length packets as at least two separate traffic flows* (Robotham, figure 1, shows data coming to the network from a number of users (elements 110) running unspecified applications, which generate packets of constant or variable length, figure 3A, elements 301A, 301B, 307A, 307B, 307C, 307D are separate traffic flows arriving at the system).
- *defining at least two shaping groups, each shaping group including at least one of the traffic flows and at least one of the shaping groups including at least two of the traffic flows* (Robotham, figure 3A, elements 301A and 301B form a shaping group which is shaped in scheduler 302 and elements 307A and 307B form another shaping group).

  Setting restrictions of speed properties for the at least two shaping groups (Robotham, paragraph [0042], line 12, teaches that rate limiting is performed in a scheduler, which handles a shaping group that includes at least two traffic flows as shown in figure 3A, element 308A for instance).

Robotham does not teach defining *an earliest permitted moment, at which a packet in the system can be forwarded by the multiplexer, is defined as the greatest value of the VTS values of at least two shaping groups, to which a traffic flow represented by the packet belongs; and as a result of the forwarding of the packet, the VTS values of the same shaping groups (k) are updated, in which the VTS value of an individual shaping group (k) expresses the earliest permitted moment, at which a packet belonging under the relevant shaping group (k) can be forwarded, without breaking the restrictions of the speed properties of the shaping group (k) being examined.* However admitted prior art included in the application teaches forwarding packets of variable length to at least one buffer memory (see FIFO queue in Figure 1); *the earliest permitted moment, at which a packet in the system can be forwarded from the system, is defined as the greatest value of the VTS values of all the shaping groups (k), to which shaping groups (k) the traffic flow (V1-VL) represented by the packet belongs* (Specification, page 2, line 24 states that figure 1 and the subsequent discussion related to figure 1 are prior art. Specification, equation 3 on page 3, line 17 teaches that if there are more than one VTS values, each associated with one restriction on the packet flow, then the greatest VTS value will be selected. **Applying the same rule, when there are more than one VTS values, each associated with one shaping group, then the greatest VTS value will be selected)**; *and as a result of the forwarding of the packet, the VTS values of the same shaping groups (k) are updated, in which the VTS value of an individual*

shaping group (k) expresses the earliest permitted moment, at which a packet belonging under the relevant shaping group (k) can be forwarded, without breaking the restrictions of the speed properties of the shaping group (k) being examined **(Specification, page 3, equations 1 and 2 show the parameters VTS_CIR_{next} and VTS_CIR_{prev}, VTS_PIR_{next} and VTS_PIR_{prev}. The subscripts *prev* and *next* show an updating process for the parameters VTS_CIR and VTS_PIR from which the VTS for a packet is selected according to equation 3, which ensures that no speed properties of the examined entity are broken according to Specification, page 3, line 13).**

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement *the earliest permitted moment, at which a packet in the system can be forwarded from the system, is defined as the greatest value of the VTS values of at least two shaping groups (k), to which shaping groups (k) the traffic flow represented by the packet belongs; and as a result of the forwarding of the packet, the VTS values of the same shaping groups (k) are updated, in which the VTS value of an individual shaping group (k) expresses the earliest permitted moment, at which a packet belonging under the relevant shaping group (k) can be forwarded, without breaking the restrictions of the speed properties of the shaping group (k) being examined* of **the admitted prior art into Robotham, since Robotham teaches shaping aggregation traffic flows by groups (something broad) in general and the admitted prior art suggests the beneficial use of the**

maximum VTS to send a packet when more than one VTS are available as a result of more than one restrictions on the relevant traffic flow, such as to ensure that all speed properties of that flow are taken into account (admitted prior art in Specification page 3, lines 13-17) in the analogous art of data communications.

iii. As per claim 2, Robotham and the admitted prior art teach claim 1. Robotham also teaches *the traffic flows contained in a first shaping group (k) are all also included in a second shaping group (hierarchal shaping)* (Robotham, figures 3A and 3B show a hierarchal system of shaping groups. For example, in figure 3B, flows 317A and 317A' belong to the group shaped in 319A, the group shaped in 308A, and the group shaped in 312).

iv. As per claim 3, Robotham teaches *a system for performing aggregate-portion-specific flow shaping in packet-switched telecommunications* (Robotham, paragraph [0001] teaches a system for scheduling aggregation-related data traffic flow), *in which the equipment includes:*

- *means for receiving constant or variable-length packets carrying digital information* (Robotham, figure 1, shows data coming to the network from a number of users (elements 110) running unspecified applications, which generate packets of constant or variable length, then received by element 102 which is an access node).
- *a controller configured to:*

- *classify a packet arriving in the system as representing one of the traffic flows arriving in the system* (Robotham, figure 3A, elements 301A, 301B, 307A, 307B, 307C, 307D are separate traffic flows arriving at the system, each packet is classified according to source (C1, C2) and real-time/non real-time characteristics).
- *define at least two shaping groups in the system, each shaping group including* at least one of the traffic flows and at least one of the shaping groups including at least two of the traffic flows (Robotham, figure 3A, elements 301A and 301B form a shaping group which is shaped in scheduler 302).
- *set restrictions for the speed properties for the at least two shaping groups* (Robotham, paragraph [0042], line 12, teaches that rate limiting is performed in a scheduler, which handles a shaping group that includes at least two traffic flows as shown in figure 3A, element 308A for instance).
- *means for forwarding packets to an outgoing link or links* (Robotham, figure 3A, element 318 shows traffic coming out to a 10Mbps link, which implies an inherent means for forwarding packets to that link.)

Robotham does not teach *means, which the aid of which it is possible to define the earliest permitted moment, at which a packet in the system can be forwarded, as the largest value of all the VTS values of the shaping groups (k), to which shaping groups (k) the traffic flow represented by the packet belongs; and with the aid of which means it is possible to update the VTS values of the same shaping groups (k) as a consequence of forwarding the packet, in which the VTS value of an individual*

shaping group (k) expresses the earliest permitted moment, at which a packet under the shaping group (k) in question can be forwarded, without breaking the restrictions of the speed properties of the shaping group being examined. However admitted prior art included in the application teaches *means, which the aid of which it is possible to define the earliest permitted moment, at which a packet in the system can be forwarded, as the largest value of all the VTS values of the shaping groups (k), to which shaping groups (k) the traffic flow represented by the packet belongs* (Specification, page 2, line 24 states that figure 1 and the subsequent discussion related to figure 1 are prior art. Figure 1 of admitted prior art in the Specification contains the Shaper (SH) as the means to perform the functions discussed below. Specification, equation 3 on page 3, line 17 teaches that if there are more than one VTS values, each associated with one restriction on the packet flow, then the greatest VTS value will be selected. **Applying the same rule, when there are more than one VTS values, each associated with one shaping group, then the greatest VTS value will be selected);** *and with the aid of which means it is possible to update the VTS values of the same shaping groups (k) as a consequence of forwarding the packet, in which the VTS value of an individual shaping group (k) expresses the earliest permitted moment, at which a packet under the shaping group (k) in question can be forwarded, without breaking the restrictions of the speed properties of the shaping group being examined* **(Specification, page 3, equations 1 and 2 show the parameters VTS_CIR_{next} and VTS_CIR_{prev}, VTS_PIR_{next} and VTS_PIR_{prev}. The subscripts *prev* and *next* show an updating process for the**

parameters VTS_CIR and VTS_PIR from which the VTS for a packet is selected according to equation 3, which ensures that no speed properties of the examined entity are broken according to Specification, page 3, line 13).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement *means, which the aid of which it is possible to define the earliest permitted moment, at which a packet in the system can be forwarded, as the largest value of all the VTS values of the shaping groups (k), to which shaping groups (k) the traffic flow represented by the packet belongs; and with the aid of which means it is possible to update the VTS values of the same shaping groups (k) as a consequence of forwarding the packet, in which the VTS value of an individual shaping group (k) expresses the earliest permitted moment, at which a packet under the shaping group (k) in question can be forwarded, without breaking the restrictions of the speed properties of the shaping group being examined* of the admitted prior art into Robotham, since Robotham teaches shaping aggregation traffic flows by groups (something broad) in general and the admitted prior art suggests the beneficial use of the maximum VTS to send a packet when more than one VTS are available as a result of more than one restrictions on the relevant traffic flow, such as to ensure that all speed properties of that flow are taken into account (admitted prior art in Specification page 3, lines 13-17) in the analogous art of data communications.

v. As per claim 4, Robotham and the admitted prior art teach claim 3. Robotham also teaches *the equipment includes means, with the aid of which it is possible to define all the traffic flows (V1-VL) contained in at least one shaping group (k) as belonging to some second shaping group (hierarchal shaping)* (Robotham, figures 3A and 3B show a hierarchal system of shaping groups. For example, in figure 3B, flows 317A and 317A' belong to the group shaped in 319A, the group shaped in 308A, and the group shaped in 312).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FARAH FAROUL whose telephone number is (571)270-1421. The examiner can normally be reached on M - F 7:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chi H Pham/
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/FARAH FAROUL/
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